AMENDMENTS TO THE CLAIMS

Please accept amended Claims 42 and 46 as follows.

Listing of claims.

1. (Previously Presented) An automated method for managing a plurality of cachable entities, comprising:

      analyzing program code to determine at least one statement which can affect, by its execution, a desirability of performing at least one cache transaction;

      determining a probability that the at least one statement will execute;

      determining the desirability of performing the at least one cache transaction based on the probability that the at least one statement will execute,

      wherein the automated method is executed by a processor.

2. (Original) The method of claim 1, wherein the desirability of performing the at least one cache transaction is based on one of a frequency of access of at least one cachable entity, a size of at least one cachable entity, a time to one of fetch and materialize at least one cachable entity, a lifetime of at least one cachable entity, and a combination thereof.

3. (Original) The method of claim 1, wherein the at least one statement is a statement that modifies a value of at least one cachable entity, and wherein the desirability is based on an expected lifetime of the at least one cachable entity.

4. (Previously Presented) The method of claim 41, wherein the step of performing at least one cache transaction comprises one of storing at least one cachable entity in a cache, invalidating at

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least one cachable entity stored in a cache, updating at least one cachable entity stored in a cache, and a combination thereof.

5. (Original) The method of claim 1, further comprising the step of augmenting the program code with additional code to assist in determining the desirability of performing the at least one cache transaction.

6. (Previously Presented) The method of claim 41, further comprising the step of augmenting the program code with additional code to perform the at least one cache transaction.

7. (Original) The method of claim 4, wherein at least one of the step of invalidating the at least one cachable entity stored in the cache and the step of updating the at least one cachable entity stored in the cache comprise the step of performing data update propagation (DUP).

8. (Original) The method of claim 1, wherein the at least one statement is one of source code, assembly code, machine code, and structured query language (SQL) code.

9. (Original) The method of claim 8, wherein the at least one statement in the SQL code includes at least one SET statement.

10. (Original) The method of claim 1, wherein the cachable entities include query results.

11. (Original) The method of claim 1, wherein the analyzing step comprises the steps of:

detecting at least one query statement for retrieving at least one of the cachable entities from a cache;

generating a query key format; and

augmenting the program code with additional code for calculating a query key in accordance with the query key format.

12. (Previously Presented) The method of claim 11, further comprising performing at least one cache transaction, wherein performing comprises the steps of:

executing the augmented code to calculate the query key;

searching the cache using the query key; and

retrieving at least one cachable entity stored in the cache if the cachable entity corresponds to the query key.

13. (Original) The method of claim 12, further comprising the steps of:

processing the at least one query statement to retrieve at least one of the plurality of cachable entities, if there are no cachable entities in the cache which correspond to the query key;

storing the at least one retrieved cachable entity in the cache using the query key; and

associating at least one dependency with the at least one retrieved cachable entity.

14. (Original) The method of claim 1, wherein the at least one statement is a type that one of creates at least one cachable entity, deletes at least one cachable entity, and modifies a value of at least one cachable entity, wherein the analyzing step comprises the steps of:

generating an invalidation key format in accordance with the type of the at least one statement; and

augmenting the program code with additional code for calculating an invalidation key in accordance with the generated invalidation key format.

15. (Previously Presented) The method of claim 14, further comprising performing at least one cache transaction, wherein performing comprises the steps of:

executing the augmented code to calculate the invalidation key; and

invalidating at least one cachable entity stored in the cache that corresponds to the invalidation key.

16. (Original) The method of claim 15, wherein the step of invalidating at least one cachable entity comprises one of purging the cachable entity from the cache, purging the cachable entity from the cache and repopulating the cache, and updating the cache.

17. (Previously Presented) The method of claim 41, wherein the step of performing at least one cache transaction comprises the step of initializing a cache.

18. (Previously Presented) A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine to perform method steps for managing a plurality of cachable entities, the method steps comprising:

analyzing program code to determine at least one statement which can affect, by its execution, a desirability of performing at least one cache transaction;

determining a probability that the at least one statement will execute;

determining the desirability of performing the at least one cache transaction based on the probability that the at least one statement will execute.

19. (Original) The program storage device of claim 18, wherein the desirability of performing the at least one cache transaction is based on one of a frequency of access of at least one cachable entity, a size of at least one cachable entity, a time to one of fetch and materialize at least one cachable entity, a lifetime of at least one cachable entity, and a combination thereof.

20. (Original) The program storage device of claim 18, wherein the at least one statement is a statement that modifies a value of at least one cachable entity, and wherein the desirability is based on an expected lifetime of the at least one cachable entity.

21. (Previously Presented) The program storage device of claim 45, wherein the instructions for performing at least one cache transaction include instructions for one of storing at least one cachable entity in a cache, invalidating at least one cachable entity stored in a cache, updating at least one cachable entity stored in a cache, and a combination thereof.

22. (Original) The program storage device claim 18, further including instructions for augmenting the program code with additional code to assist in determining the desirability of performing the at least one cache transaction.

23. (Previously Presented) The program storage device of claim 45, further including instructions for augmenting the program code with additional code to perform the at least one cache transaction.

24. (Original) The program storage device of claim 21, wherein the instructions for at least one of invalidating the at least one cachable entity stored in the cache and updating the at least one cachable entity stored in the cache include instructions for performing data update propagation (DUP).

25. (Original) The program storage device of claim 18, wherein the at least one statement is one of source code, assembly code, machine code, and structured query language (SQL) code.

26. (Original) The program storage device of claim 25, wherein the at least one statement in the SQL code includes at least one SET statement.

27. (Original) The program storage device of claim 18, wherein the cachable entities include query results.

28. (Original) The program storage device of claim 18, wherein the instruction for performing the analyzing step include instructions for performing the steps of:

      detecting at least one query statement for retrieving at least one of the cachable entities from a cache;

      generating a query key format; and

augmenting the program code with additional code for calculating a query key in accordance with the query key format.

29. (Previously Presented) The program storage device of claim 28, further comprising instructions for performing at least one cache transaction, wherein the instructions for performing at least one cache transaction include instructions for performing the steps of:

executing the augmented code to calculate the query key;

searching the cache using the query key; and

retrieving at least one cachable entity stored in the cache if the cachable entity corresponds to the query key.

30. (Original) The program storage device of claim 29, further including instructions for performing the steps of:

processing the at least one query statement to retrieve at least one of the plurality of cachable entities, if there are no cachable entities in the cache which correspond to the query key;

storing the at least one retrieved cachable entity in the cache using the query key; and

associating at least one dependency with the at least one retrieved cachable entity.

31. (Original) The program storage device of claim 18, wherein the at least one statement is a type that one of creates at least one cachable entity, deletes at least one cachable entity, and modifies a value of at least one cachable entity, wherein the instructions for performing the analyzing step include instructions for performing the steps of:

generating an invalidation key format in accordance with the type of the at least one statement; and

augmenting the program code with additional code for calculating an invalidation key in accordance with the generated invalidation key format.

32. (Previously Presented) The program storage device of claim 31, further comprising instructions for performing at least one cache transaction, wherein the instructions for performing at least one cache transaction include instructions for performing the steps of:

executing the augmented code to calculate the invalidation key; and

invalidating at least one cachable entity stored in the cache that corresponds to the invalidation key.

33. (Original) The program storage device of claim 32, wherein the instructions for invalidating at least one cachable entity include instructions for performing one of purging the cachable entity from the cache, purging the cachable entity from the cache and repopulating the cache, and updating the cache.

34. (Previously Presented) The program storage device of claim 45, wherein the instructions for performing the at least one cache transaction include instructions for initializing a cache.

35. (Previously Presented) A system for managing a plurality of cachable entities, comprising:

a processor to execute and analyze program code and determine at least one statement which can affect, by its execution, a desirability of performing at least one cache transaction;

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the processor determining a probability that the at least one statement will execute and determining the desirability of performing the at least one cache transaction based on the probability that the at least one statement will execute; and

a cache manager for performing the at least one cache transaction if it is determined to be desirable.

36. (Original) The system of claim 35, wherein the desirability of performing the at least one cache transaction is based on one of a frequency of access of at least one cachable entity, a size of at least one cachable entity, a time to one of fetch and materialize at least one cachable entity, a lifetime of at least one cachable entity, and a combination thereof.

37. (Original) The system of claim 35, wherein the at least one detected statement is a statement that modifies a value of at least one cachable entity, and wherein the desirability is based on an expected lifetime of the at least one cachable entity.

38. (Original) The system of claim 35, wherein the cache manager performs one of storing at least one cachable entity in the cache, invalidating at least one cachable entity stored in the cache, updating at least one cachable entity stored in the and a combination thereof.

39. (Original) The system of claim 35, wherein the cache manager augments the program code with additional code to assist in determining the desirability of performing the at least one cache transaction.

40. (Original) The system of claim 35, wherein the cache manager augments the program code with additional code to perform the at least one cache transaction.

41. (Previously Presented) The method of claim 1, further comprising performing the at least one cache transaction if it is determined to be desirable.

42. (Currently Amended) The method of claim 1, wherein said probability represents a likelihood of a value of a cachable entity changing due to execution of the ~~cachable entity~~ at least one statement.

43. (Previously Presented) The method of claim 42, further comprising caching a value of said cachable entity, if said probability is less than or equal to a threshold.

44. (Previously Presented) The method of claim 42, further comprising invalidating or updating a value of said cachable entity, if said probability is greater than or equal to a threshold.

45. (Previously Presented) The program storage device of claim 18, further comprising instructions for performing the at least one cache transaction if it is determined to be desirable.

46. (Currently Amended) The program storage device of claim 18, further comprising instructions for determining said probability representing a likelihood of a value of a cachable entity changing due to execution of the ~~cachable entity~~ at least one statement.

47. (Previously Presented) The program storage device of claim 46, further comprising instructions for caching a value of said cachable entity, if said probability is less than or equal to a threshold.

48. (Previously Presented) The program storage device of claim 46, further comprising instructions for invalidating or updating a value of said cachable entity, if said probability is greater than or equal to a threshold.

49. (Previously Presented) The method of claim 1 further comprising the step of performing the at least one cache transaction if said desirability is greater than or equal to a threshold.

50. (Previously Presented) The program storage device of claim 18, further comprising instructions for performing the at least one cache transaction if said desirability is greater than or equal to a threshold.

51. (Previously Presented) The system of claim 35, wherein the cache manager performs the at least one cache transaction if said desirability is greater than or equal to a threshold.